

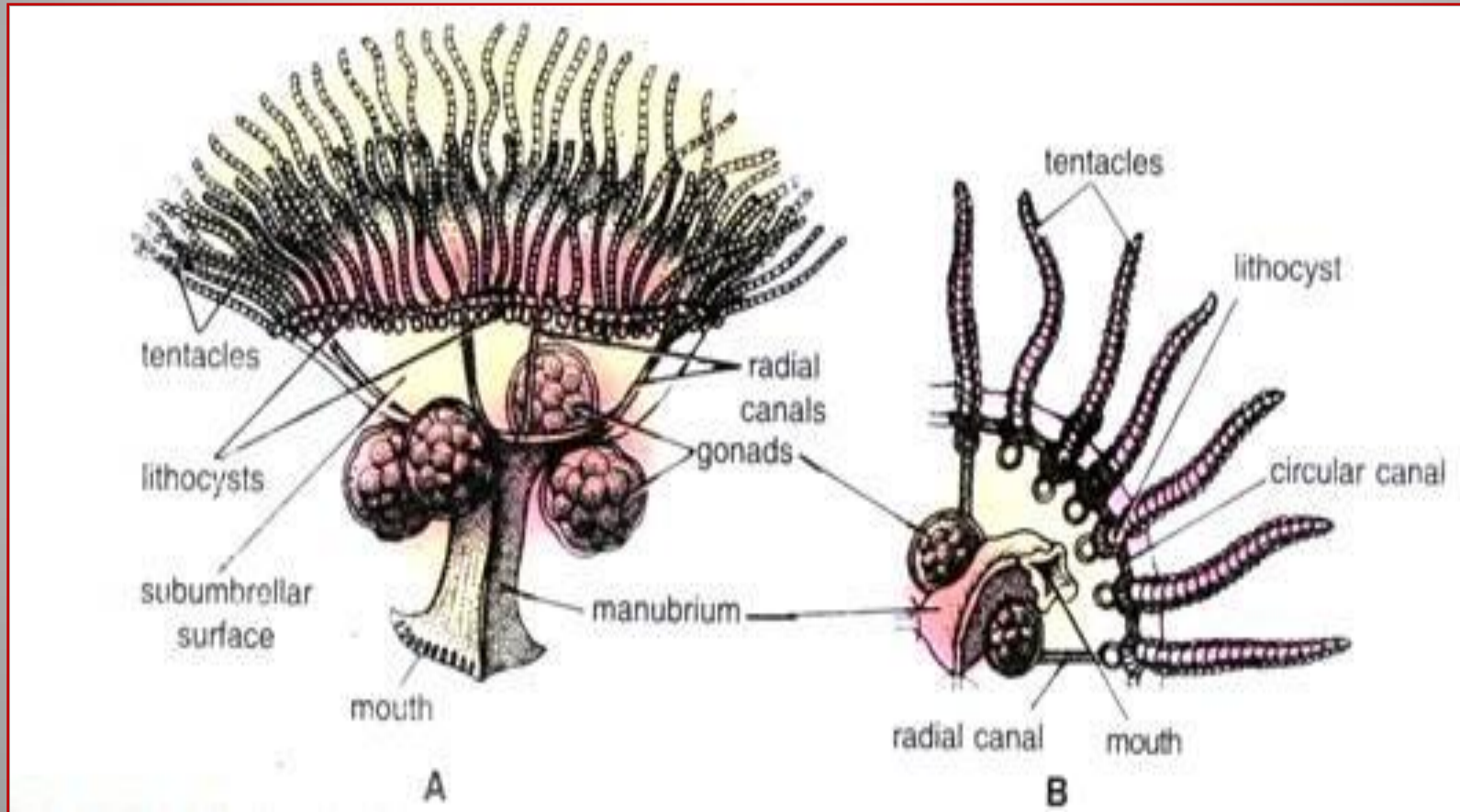
Topic: Morphology and Life history of Obelia
Class: B.Sc Part –I (Hons.)
Paper- I
Group – A

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Obelia: A. Mature medusa swimming with everted medusa; B. One quarter of the same in oral view.



- The gonads mature after the medusae escape from the gonotheca.
- The edge of the bell is produced inwards as a thin fold called velum.
- Velum is characteristic of hydrozoan medusae but it is insignificant in Obelia.
- The medusae with a velum are called craspedote, and those with no velum are acraspedote (Scyphozoa).

- From the edge of the bell numerous small solid tentacles hang downwards.
- The tentacles have swollen bases due to the accumulation of interstitial cells which are practically absent from other regions.
- The basal swellings of tentacles are called vesicles or bulbs,
- Nematocysts are formed continuously in the bulbs from where they migrate to the tentacles.

- Digestive enzymes are secreted from the endoderm of bulbs.
- Near the bulbs the ectoderm has pigment granules and nerve cells,
- They are often called ocelli and it is claimed that the ocelli are sensory to light, but more probably there are no ocelli,
- The pigment granules are accumulated excretory matter.

- Above the bulb of every tentacle is a tiny fluid-filled vesicle.
- Nematocysts are confined to the manubrium and tentacles,
- There may be some on the bell margin.
- There are eight marginal sense organs called statocysts or lithocysts lying at regular intervals, being attached on the sub-umbrella side to the bulbs of eight tentacles,
- They are developed in response to a locomotory habit.

- A statocyst is a tiny, circular closed vesicle lined with ectoderm and filled with a fluid containing calcareous granules called otoliths which lie in a special cell called lithocyte.
- The lining has some sensory cells with thin sensory processes on which the otoliths produce a stimulus which is transmitted by nerves to muscles;

- The muscles coordinate the snake-like swimming movements of the medusa, and should the medusa become tilted,
- The muscles contract to right the position of medusa bell, thus, statocysts are balancing organs.